



# **STATEMENT OF QUALIFICATIONS**

**Alta Analytical Laboratory Inc.**

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## INTRODUCTION

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Alta Analytical Laboratory (ALTA) was formed in 1990 and is a privately held California corporation employing a staff of over 20 scientists. ALTA's primary mission is to provide state-of-the-art mass spectrometry services to various industrial, consulting and governmental clients. ALTA operates with the intent of providing data of highest quality, responsive service and short turnaround time.

Within 12 years, ALTA has grown to be a company with an expanding national and international client base of over 500. This tremendous growth is attributable to the reputation ALTA has gained in performing difficult trace level analyses reliably for the pulp and paper, air toxics consulting and the agricultural industries. ALTA's expertise lies in the analysis of semivolatile organic compounds such as Dioxin/Furans (PCDD/Fs), Polynuclear Aromatic Hydrocarbons (PAHs), Polychlorinated Biphenyls (PCBs), Chlorobenzenes, Chlorophenols, Polybrominated Diphenyl Ethers, and select pesticides and herbicides.

ALTA's founders and technical staff represent a unique and highly experienced group of mass spectrometry specialists. This strength in experience has enabled ALTA to provide project/client specific method development and technical consulting unsurpassed in the industry. ALTA staff have provided guidance to the government agencies responsible in the development of USEPA Methods 8290, 1613 and California Air Resources Board (CARB) Methods 428 and 429.

ALTA has actively participated in interlaboratory round robin studies and certification programs such as the USEPA (ITD) study of PCDD/PCDFs in effluents; Radian Corporation study of PCDD/PCDFs in soils; Environment Canada studies on Dioxin precursors DBD & DBF, PCDD/PCDFs in air, PCDD/PCDFs in pulp and paper; Cambridge Isotopes Lab (CIL) study on Coplanar PCBs and PCDD/PCDFs in fish; the National Council for Air and Stream Improvement (NCASI) lab certification program study and the NCASI/USEPA variability study on PCDD/PCDFs in pulp and paper.

ALTA is also committed to internally funded research and new method development. ALTA has recently developed and presented papers on Solid Phase Extraction and Supercritical Fluid Extraction of Dioxins in effluents.

Quality is of paramount concern in the analytical industry today. In light of this, ALTA has implemented three company standards:

- 1 — ALTA will maintain a laboratory Quality Assurance Program compliant with National Environmental Laboratory Accreditation Program (NELAP)
- 2 — Laboratory Quality Control samples will be analyzed at a frequency in excess of 15%. Internal standard and laboratory control spike recoveries will meet or exceed method recovery criteria or sample batches will be rerun at no additional charge to our clients.
- 3 — All data undergoes three levels of technical review prior to being reported to the client.

In order to give an overview of Alta Analytical Laboratory, this Statement of Qualifications is organized into sections on Analytical Services, Facility, Equipment, Quality Assurance and Project Experience. Resumes for key technical staff can be found in the Appendix.

## **ANALYTICAL SERVICES**

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### **HRMS SERVICES** □

The trend in environmental legislation and regulation over the last decade has been increasingly driven by attempts to measure the impact of any exposure to the population via risk assessments. For these studies to have meaning, it has been necessary to detect hazardous compounds at significantly lower levels. In the area of Dioxins/Furans, Polychlorinated Biphenyls and Polynuclear Aromatics, the necessary detection levels have resulted in the need for superior instrumentation. High Resolution Mass Spectrometry has become the most suitable analytical technique to fill this need.

ALTA's HRGC/HRMS group uses 4 magnetic sector double focusing MicroMass High Resolution Mass Spectrometers. These 4 Mass Spectrometers enable ALTA to provide the lowest detection limits in the industry. ALTA has experience in analyzing a wide of variety sample types and matrices for Dioxins/Furans, PAHs, PCBs, Coplanar PCBs, and other semivolatile organic compounds. Some typical sample sources and types analyzed at ALTA are listed below:

- Biological samples (fish, tissue, birds, clams, mussels, crayfish)
- Environmental samples such as waters, soils
- Foodstuffs and food packaging
- Fuel oils
- Human blood and tissue
- Industrial waste samples (sludges, effluents, fly ash, still bottom)
- Pulp and paper industry products, byproducts and wastes
  
- Stack source emissions (MM5 train) from the following sources:
  - cement kilns
  - diesel fired boilers
  - hazardous waste incinerators
  - medical waste incinerators
  - municipal waste incinerators
  - oil fired boilers
  - waste to energy plants
  - wood fired boilers
  
- Ambient air studies (PUF, PUF/XAD<sub>2</sub> sandwich)
  - investigations
  - remediation sites

**TABLE 2. Typical Dioxin/Furan Detection Limits using HRGC/HRMS**

PCDD/F					
Method	Technique	Sample Type	Cl <sub>4</sub>	Cl <sub>5</sub> -Cl <sub>7</sub>	Cl <sub>8</sub>
EPA Method 23	HRMS	MM5	1-5 pg/smpl	2-20 pg/smpl	50 pg/smpl
CARB Method 428	HRMS	MM5	1-5 pg/smpl	2-20 pg/smpl	50 pg/smpl
EPA Method TO-9A	HRMS	PUF	1-5 pg/smpl	2-20 pg/smpl	50 pg/smpl
EPA Method 8290/1613	HRMS	SOLIDS	0.2-0.5 PPT	2.5 PPT	5 PPT
EPA Method 1613	HRMS	AQUEOUS	1-5 PPQ	25 PPQ	50 PPQ

**TABLE 3. Typical Reporting Limits for PAHs**

Method	Technique	Sample Type	Reporting Limits (ng/sample)
EPA Method TO-13 (for PAHs)	HRMS	MM5 or PUF	10-25
CARB Method 429 (for PAHs)	HRMS	MM5	10-25

**TABLE 4. Typical Detection Limits for PBDEs using HRGC/HRMS**

Method	AQUEOUS	SOLID	TISSUE	MILK
EPA Method 1614	50-1250 pg/L	5-125 pg/g	2-50 pg/g	1-25 pg/mL

**TABLE 5. Typical Detection Limits for PCBs using HRGC/HRMS**

Method	AQUEOUS	SOLID	TISSUE
EPA Method 1668	25-75 pg/L	2.5-7.5 pg/g	1-3 pg/g

**TABLE 5. Typical Detection Limits for PCNs using HRGC/HRMS**

Method	AQUEOUS	SOLID	TISSUE
Modified EPA Method 1668	50 pg/L	5 pg/g	5 pg/g

ALTA has the capability to perform all existing USEPA, CARB and NCASI methods for the determination of dioxins/furans, PCBs, PAHs, PBDEs, chlorobenzenes and chlorophenols and other selected organic contaminants by High Resolution Mass Spectrometry. ALTA also specializes in the development of new sample preparation techniques that enable ultra-low level detection of semivolatile organics in complex sample matrices. The following tables list methods performed routinely by the ALTA HRMS group.

**TABLE 1. Methods Performed by ALTA HRMS Group**

Method	Sample Matrix	Dioxins/ Furans	PAHs	PCBs	PBDEs	Specialty Compounds
USEPA 1613	S,E,Sl,T,W	X				
USEPA 1668	T,S,Sl,E,			X		
USEPA 8290	P,Sl,E,S,T,W,Fo,Sb	X				
USEPA 8280	S,W,Fa,Fo,Sb	X				
USEPA 613	W	X				
USEPA 513	W	X				
NCASI 551/PCDD	P,Sl,E,S,W,Fa	X				
USEPA 1614	T,S,Sl,E,A,				X	
WHO	P,Sl,E,S,W,Fa	X				
USEPA 23	MM5	X				
USEPA TO9	PUF	X				
USEPA TO13	PUF or MM5		X			
CARB 428	MM5	X		X		
CARB 429	MM5		X			
ALTA Custom Methods	All	X	X	X		X

Sample Matrix key:

A	= Aqueous	W	= Waste
E	= Effluent	S	= Soil
Fa	= Fly Ash	Sb	= Still Bottom
Fo	= Fuel Oils	Sl	= Sludge
P	= Pulp/paper	T	= Tissue
MM5	= MM5 Train air sample	PUF	= Polyurethane foam plug air sample

## **FACILITY**

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ALTA's two group operations are housed in two different facilities located in El Dorado Hills California. The original building contains 11,800 square feet and is primarily for the LCMS/MS group. The newest addition consists of 9,000 square feet and is for the HRGC/MS group. ALTA's original laboratory was initially completed in December 1990 with a 2,500 sq. ft. expansion completed in April 1993. ALTA's second building was completed in March 2001 and is currently being expanded.

The HRGC/MS facility features:

- Large sample log-in and sample storage areas including a walk-in freezer and walk-in refrigerator. Sample Control freezers and refrigerators are continuously monitored for temperature.
- 2 separate sample preparation laboratories are designed to maximize throughput and minimize sample cross contamination. Each lab is windowed and spacious to provide chemists with a safe and high capacity work environment. Sample preparation capabilities include sample grinding and drying, MM5 air train preparation, supercritical fluid extraction, biological tissue processing and soil core subsampling.
- An open floor plan, 840 square foot instrument operations room. Accommodating 4 magnetic sector instruments and 4 triple stage quadrupole instruments, this design facilitates communication between instrument analysts. Instrument coolers are remotely located and pump emissions are evacuated to minimize noise and maintain safe working conditions.
- Separate Quality Assurance data review office and separate Data Archive Room designed to meet USEPA NELAC standards regarding data security.



## **EQUIPMENT**

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ALTA utilizes state-of-the-art magnetic sector or triple stage quadrupole mass spectrometers. Each instrument is fully automated for 24-hour operations. Data can be off-loaded to stand-alone computers for data processing and review or directly uploaded into the HRMS automated laboratory system (HALS).

Sample preparation capacity is large with over 60 soxhlet extractor positions and over 14 rotary evaporators. 13 fume hoods each surrounded by open bench space are positioned throughout the preparatory labs.

Below is listed a description of the laboratory equipment:

### **HRMS Analytical Instrumentation □**

- CTC Autosampler Model A200S (5)
- Compaq Alpha Station w/Opus Data System (5)
- MicroMass Autospec Ultima High Resolution Mass Spectrometer (5)
- Neslab HX500 Water Cooler (4)

### **Sample Preparation Equipment □**

- 8 ft. fume hoods (12)
- Berkel Scharfen Food Slicer (1)
- Biohazard Fume Hood (1)
- Buchler Rotary Evaporators (16)
- Denver Instruments Top Loader Balance (2)
- Dionex Accelerated Solvent Extractor (1)
- Electrothermal Electromantle 6 sample capacity (12)
- Electrothermal Electromantle 3000 mL capacity (6)
- Fischer Scientific Isotemp Oven (2)
- Fischer Scientific Marathon 3000 Centrifuge (1)
- Fischer Scientific Model A-160 Analytical Balance (1)
- Fischer Scientific Model XL-3000 Top Loader Balance (1)
- Mettler Toledo MT5 Balance (6 place) (1)
- Neslab Coolflow CFT-33 Cooler (11)
- Organomation 24 Station N-EVAPorators (4)
- Supercritical Fluid Extractor - ISCO-2300 (2)
- Thomas Grinder (1)
- Thermolyne 1400 Furnace Kiln (1)
- VWR 1320 Oven (1)
- Zymark TurboVap LV Evaporator (2)

### **Data Management and Report Production Equipment □**

HALS® (HRMS Automated Laboratory System)  
Canon Fax-L770 Facsimile  
Canon 6050 Photocopier  
Canon High Speed Scanner (2)  
Concentrator 10 Base-T (1)  
Concentrator 100 Base-Tx (1)  
DEC Laser 2100 Plus (2)  
HP Laser Jet Printers (13)  
Microsoft Office 2000  
Network Server (3)

### **Sample Storage Equipment □**

Freezer 2-door 50 cu. ft. capacity (1)  
Freezer 3-door 68 cu. ft. capacity (1)  
Freezer Walk-in 335 cu. ft. capacity (1)  
Omega 5000 Temperature Logger (1)  
Refrigerator 1-door ~3 cu. ft. capacity (4)  
Refrigerator 1-door 20 cu. ft. capacity (3)  
Refrigerator 2-door 50 cu. ft. capacity (2)  
Refrigerator Walk-in 654 cu. ft. capacity (1)  
Refrigerator Walk-in 335 cu. Ft. capacity (1)

## QUALITY ASSURANCE

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The ALTA Quality Assurance Program has been designed to ensure that our laboratory reports meet or exceed the minimum data quality objectives stipulated in the NELAC standards or the applicable method.

Basic laboratory systems, including personnel training, analytical standards management, and equipment operation are documented by Standard Operating Procedures (SOP's) and Analytical Procedures (AP's) in strict accordance with USEPA requirements. Additional project or study specific QC options are available upon request. Based on the three-tier approach described below, ALTA conducts a comprehensive QA Program that goes well beyond that typically available from commercial laboratories.

### **TIER 1. USEPA Standards**

ALTA's standard operating procedures and analytical procedures cover all operations and were written in accordance to USEPA NELAC Standards. In particular, ALTA has taken the approach to adhere to NELAC standards throughout the laboratory whenever possible. This approach, although more stringent, ensures maximum uniformity in laboratory operations, particularly data collection and record keeping.

### **TIER 2. Method Performance Evaluation**

ALTA routinely analyzes the following QC samples to monitor HRMS/LRMS method performance:

- one method blank per set (batch) of samples extracted,
- one OPR at a frequency of every 20 samples or less of similar matrix and analysis,
- periodically, a pair of matrix spikes (MS/MSD).

### **TIER 3. Study/Project Specific QC Options**

ALTA offers study/project specific quality control options on an as-needed basis including:

- Matrix Spike, Matrix Spike Duplicate samples,
- Duplicate samples,
- Resin, Filter QC's,
- Raw data package (chromatograms, data sum sheets, calibrations),
- USEPA 40 CFR Part 136 Appendix B Method Detection Limit (MDL) Studies,
- Method Development and Validation Studies,
- Multiple column or MS/MS Confirmations.

### **Project Management**

All analytical work is overseen by experienced environmental chemists with "hands-on" involvement in the project. Studies are assigned by matching expertise with analytical program requirements. This ensures that clients receive expert consultation beginning with project definition and ending with the discussion of the final report. The resumes of key technical personnel are provided in the Appendix.

### **Sample Tracking**

Clients conducting long term field studies or other monitoring studies often require that sample batches be analyzed according to a study or project specific analytical program. In order to provide this level of tracking and routine handling, ALTA assigns a Client ID and a Sample Project ID to all sample batches as they are logged into ALTA's HRMS Automated Laboratory System (HALS). This enables Sample Control personnel to use a project template, which reduces errors during log-in, and facilitates the assignment of appropriate analytical tests.

### **Cost Accounting**

ALTA's in-house accounting program routinely tracks invoices by Project ID (as well as Client ID). Upon request, project reports can be generated monthly, quarterly or year-to-date to document laboratory costs associated with a particular project. This service is valuable for project managers working under a fixed budget, or those that have multiple projects running concurrently with ALTA. In addition, it allows ALTA to verify the volume of revenue generated by an account and award volume discounts (if applicable) on a real time basis.

## **SELECTED PROJECT EXPERIENCE**

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### **Air Toxics Monitoring Projects:**

1. Performed PCDD/PCDF, PAH and semi-volatile analyses for the WTI Hazardous Waste Incinerator Trial Burn on over 50 samples (1992).
2. PCDD/PCDF using California Air Resources Board (CARB) Methods 428 and 429 (LRMS & HRMS).
3. Stack emission tests of hospital infectious waste incinerators for PCDD/PCDF and PAHs by CARB Methods 428 and 429 (LRMS & HRMS).
4. Sugar plant stack emission test and process water analysis for PCDD/PCDF by CARB Method 428 and EPA Method 1613A (HRMS).
5. Refinery stack emission monitoring of PAHs by CARB Method 429 (HRMS).
6. Diesel/natural gas boiler stack testing for PAHs by CARB Method 429 (LRMS & HRMS).
7. Ambient Air Analysis by Modified EPA Method TO-9 for PCDD/PCDFs (USEPA SAS #5710-D-01).
8. PCDD/PCDF Ambient Air Round Robin Study conducted for Environment Ontario [Contact: R.E. Clement (Environment Ontario), 416.235-5906].
9. Ambient Air Analysis by Modified EPA Method TO-9 for PCDD/PCDF, PAH, and Coplanar PCB's (USEPA SAS #1226).
10. ALTA holds 1-year contracts for California Air Resources Board for CARB 428 and 429 for 1993, 1994, 1995 and 1996.

### **Pulp and Paper Industrial Monitoring Projects:**

1. USEPA Industrial Technology Division Method 1613A inter-laboratory method performance evaluation study involving pulp mill effluent analysis for PCDD/PCDF [Contact: William Telliard (USEPA-ITD), 202 383-7120].

#### **Pulp and Paper Industrial Monitoring Projects (continued):**

2. NCASI Certification performance check sample analysis of standard reference pulps, sludges and effluents for TCDD/TCDF using NCASI Method 551 [Contact: Larry LaFleur (NCASI), 503 752-8801].
3. NPDES compliance permit monitoring of PCDD/PCDF in fish by the Stalling's Method.
4. Determination of TCDD/TCDF in finished paper products by NCASI Method 551.
5. Interlaboratory study (DF-1) for the determination of dibenzo-p-dioxin and dibenzofuran in defoamers for Environment Canada.
6. NPDES compliance permit monitoring of PCDD/PCDF in pulp and paper industry effluents using EPA Method 1613A and NCASI Method 551.
7. NCASI/USEPA joint variability study involving analysis of pulp, sludge & pulp mill effluent for PCDD/PCDF. [Contact: Larry LaFleur]

#### **Municipal and Industrial Monitoring Projects:**

1. Determination of PCDD/PCDF in soil samples by EPA Method 8290 (SAS #5674-S-01).
2. Measurement of PCDD/PCDF in power plant ash samples by EPA Method 8290.
3. Analysis of still bottom waste for PCDD/PCDF by EPA Method 8280.
4. NPDES compliance monitoring of POTW effluent by EPA Method 1613A.
5. Determination of PCDD/PCDF in refinery waste effluent by EPA Methods 8280 and 1613A.
6. Analysis of Drinking Water for 2,3,7,8-TCDD using EPA Method 1613A.
7. Fish Round Robin Study. [CIL Contact: Joel Bradley]
8. Soil Round Robin Study. [Radian Contact: Larry Keith]
9. U. S. Fish & Wildlife Service Bird Egg Study for PCDD/F, PCBs and pesticides. [Northern Pacific Coast Region Contact: Jeff Krausman]

**PCB Projects:**

1. Housatonic River Project 1997-2001 [Roy F. Weston]
2. Pittsfield Project 1997-2001 [Roy F. Weston]
3. Calcasieu Estuary Study 2000-2001 [CH2MHill]
4. Louisiana Department of Environmental Quality 2001
5. Exponent 2001
6. Passaic River Study 1994-1995 [Chemical Landholdings, Inc.]
7. Passaic River Ecological Study [Chemical Landholdings, Inc.]



**ALTA Organizational Flowchart**

**Key Technical Staff Resumes**

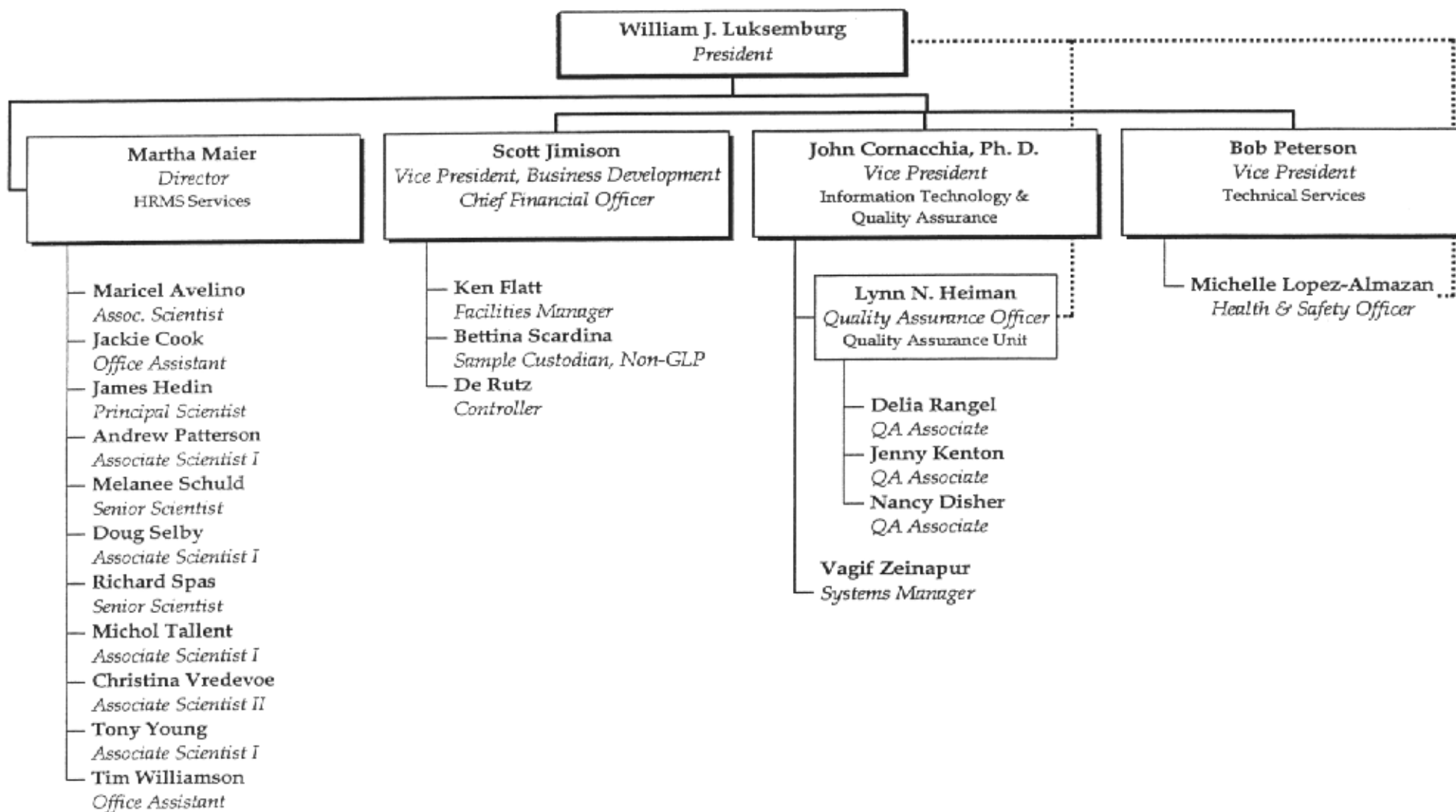
**Certifications**

## ALTA Organizational Flowchart

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# ALTA ANALYTICAL LABORATORY, INC.

## HRMS SERVICES GROUP



## **Key Technical Staff Resumes**

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## **William J. Luksemburg**

### **President**

#### **EDUCATION**

B.S. Chemistry, California State University, Fresno, CA (1974)

#### **EXPERIENCE**

Present	<b>President, ALTA Analytical Laboratory</b> Responsible for the management of business planning including venture funding, sales and marketing and the review of laboratory operations.
1990 - 2000	<b>Director of HRMS Services, ALTA Analytical Laboratory</b> Mr. Luksemburg, a co-founder, directed the routine analysis and method development work in the High Resolution Mass Spectrometry department. He was responsible for marketing HRMS dioxin services to environmental engineering firms, the pulp and paper industry, government agencies and other industrial clients. Mr. Luksemburg was also responsible for the development of new markets using HRMS instrumentation. In addition Mr. Luksemburg directed routine and special projects, reviewed and interpreted data, and interfaced with clients.
1986 - 1990	<b>Principal Scientist/HRMS Manager, Enseco-Cal Lab</b> As Principal Scientist in the Special Services department at Enseco-Cal Lab Mr. Luksemburg coordinated the operation and maintenance of five high resolution magnetic sector instruments. He was responsible for developing a business that now is one of the major suppliers of HRMS PCDD/PCDF analysis to the pulp and paper industry in the U.S. Mr. Luksemburg also coordinated the training and development of the staff in the operation and maintenance of HRMS instruments.
1979 - 1986	<b>Senior Chemist, Radian Corporation</b> In Radian's Sacramento laboratory, Mr. Luksemburg was GC/MS supervisor for ABN and VOA analysis. He coordinated the activities of five chemists in the operation and maintenance of four quadrupole mass spectrometers.
1974 - 1979	<b>Chemist, Carnation Company</b> As a staff chemist, Mr. Luksemburg was involved in the analysis of products and ingredients used in Carnation's animal feed division.

## QUALIFICATIONS

Mr. Luksemburg has over 20 years experience in production analytical laboratories including 15 years experience in the field of environmental mass spectrometry. Much of this experience has involved PCDD/PCDF analysis of environmental samples and for the last seven years has concentrated on High Resolution Mass Spectrometry analysis of PCDDs/PCDFs in a variety of matrices. Mr. Luksemburg is recognized throughout the pulp and paper industry for his research and production work on dioxins and furans. He recently was recognized on the international level when his chapter on dioxin analysis of pulp and paper (Rappe, 1991), was published by the World Health Organization. He is one of the few individuals in the world to successfully adapt the high-resolution magnetic sector instruments to "production" analysis of environmental samples at the picogram and femtogram levels.

## RECENT PRESENTATIONS

"Determination of Method Detection Limits in Pulp and Paper Mill Effluents," in Rotorua, New Zealand, at the *ISWPC Post Symposium Workshop*, May 1991.

"Comparison of NCASI Method 551, EPA Method 1613A, and the Proposed FDA Method for the Analysis of 2,3,7,8-TCDD and 2,3,7,8-TCDF in Food Packaging Material," in Boston, MA, at the *1993 TAPPI Environmental Conference*, March 1993.

"Extraction of Large Volumes of Aqueous Samples Using Solid Phase Extraction Disks," in Portland, OR at the *1994 TAPPI Environmental Conference*, April 1994.

"PCDDs and PCDFs in Urban Stormwater Discharged to San Francisco Bay, California," in Amsterdam at the *1996 Dioxin 16th Symposium on Chlorinated Dioxins and Related Compounds*, August 1996.

## PUBLICATIONS

NCASI Technical Bulletin No. 551, "NCASI Procedures for the Preparation and Isomer Specific Analysis of Pulp and Paper Industry Samples for 2,3,7,8-TCDD and 2,3,7,8-TCDF," LaFleur, L., Ramage, K., Bousquet, T., Brunck, R., Luksemburg, W., Miille, M., Peterson, R., and Valmores, S., (1989).

"Optimization of Extraction Procedures for the Analysis of TCDD/TCDF in Pulp, Paper Base Stocks, and Pulp Industry Solid Wastes," LaFleur, L., Ramage, K., Gillespie, W., Luksemburg, L., Miille, M., and Valmores, S., Chemosphere, Vol. 19, pp 643-648, 1989.

"Analytical Procedures for the Analysis of TCDD and TCDF in Food Sources," LaFleur, L., Bousquet, T., Ramage, K., Davis, T., Luksemburg, W., and Peterson, R., Presented by L. LaFleur at Dioxin '89, Toronto, Canada. Waiting publication in Chemosphere.

"Determination of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans in Pulp and Paper Industry Wastewaters, Solid Wastes, Ashes and Bleached Pulps," Luksemburg,

## **PUBLICATIONS (Continued)**

W., Environmental Carcinogens-Methods of Analysis and Exposure Measurement-Volume 11, World Health Organization, Christopher Rappe, Editor, 1991.

"Potential Sources of Polychlorinated Dibenzothiophenes in the Passaic River, New Jersey," Huntley, S., Wenning, R., Paustenbach, D., Wong, A., and Luksemburg, W., Chemosphere, Vol. 29, No.2, pp 257-273, 1994.

"Polychlorinated Dioxins and Dibenzofurans in Environmental Samples From China," Luksemburg, W., Mitzel, R., Huaidong, Z., Hedin, J., Silverbush, B. and Wong, A., Dioxin '96, Vol. 28, pp 262-263, 1996.

"Transport of Chlorinated Dioxin and Furan Contaminants in Pentachlorophenol-treated Wood to Milk and Adipose Tissue of Dairy Cattle," Fries, G., Wenning, R., Paustenbach, D., Mathur, D., and Luksemburg, W., Dioxin '96, Vol. 29, pp 447-449, 1996.

"Polychlorinated Dioxins and Dibenzofurans in Environmental Samples from China," Luksemburg, W., Mitzel, R. S., Hedin, J. M., Silverbush, B. B., Wong, A. S., Zhou, H. D., Dioxin '96, Vol. 28, pp. 262, 1996.

"Polychlorinated Dioxins and Dibenzofurans (PCDDs/PCDFs) in Environmental and Human Hair Samples Around a Pentachlorophenol Plant in China," Luksemburg, W., Mitzel, R.S., Hedin, J. M., Silverbush, B. B., Wong, A. S. and Zhou, H. D., Dioxin '97, Vol. 32, p. 38, 1997.

## **PROFESSIONAL AFFILIATIONS**

American Society for Mass Spectrometry

American Chemical Society

Technical Association of the Pulp and Paper Industry

**James M. Hedin**

**Principal Scientist**

## **EDUCATION**

B.S.                      Chemistry, University of Minnesota, Duluth, MN (1986)

## **EXPERIENCE**

Present                **Principal Scientist, ALTA Analytical Laboratory**

Mr. Hedin performs routine analysis and method development work in the High Resolution Mass Spectrometry department. He is responsible for routine maintenance of HR/MS instruments. Mr. Hedin also aids in the training of new staff, reviews and interprets data, and interfaces with clients.

1988 - 1990        **GC/MS Chemist, Enseco-Cal Lab**

As GC/MS Chemist at Enseco-Cal Lab Mr. Hedin was responsible for the operation and maintenance of quadrupole GC/MS instruments. His duties entailed sample analysis by EPA methods for volatiles and semi-volatiles. Mr. Hedin also aided in the training of the staff in the department.

1987 - 1988        **Extraction Chemist, Enseco-Cal Lab**

Mr. Hedin's duties entailed sample extraction for Dioxin/Furan Analysis by High Resolution Mass Spectrometry. He assisted in the training of new staff, and the development of new extraction techniques.

## **QUALIFICATIONS**

Mr. Hedin has over 13 years experience in production analytical laboratories including 9 years experience in the field of environmental mass spectrometry. Much of this experience has involved PCDD/PCDF analysis of environmental samples and for the last three years has concentrated on High Resolution Mass Spectrometry analysis of PCDDs/PCDFs in a variety of matrices.

## **PROFESSIONAL AFFILIATIONS**

American Society for Mass Spectrometry



**Delia P. Rangel**

**Quality Assurance Associate**

**EDUCATION**

B.S. Environmental Toxicology, University of California, Davis, CA (1997)

**EXPERIENCE**

- Present      **Quality Assurance Associate, ALTA Analytical Laboratory**  
Ensure compliance to National Environmental Laboratory Accreditation Program (NELAP) and Alta's Quality Manual (QM) and Standard Operating Procedures (SOP) as well as other regulatory agencies; review and manage MDLs, IPRs, PE samples; review data packages for compliance and completeness, aid in ISO 17025 accreditation; maintain state certifications; maintain and update SOPs and APs, maintain archives; maintain and update control charts; initiate and maintain employee initiation and training; maintain and update QM and SOQ.
- 1999 - 2000      **QC Analytical Inspector, Battelle**  
Provided quality control oversight of laboratory monitoring operations including agent monitoring, and hazardous waste sample collection. Performed a wide variety of surveillances and oversight activities designed to ensure compliance with all applicable Army, Federal, State, and internal requirements. Identified non-conforming conditions within the laboratory Dept. and notify project management of the non-conforming conditions. Approved and verified corrective actions taken that would eliminate non-conforming conditions. Performed internal and external audits. Maintain database that tracks weekly/monthly quotas, DRs, PE samples and provided reports on data accumulated.
- 1997 - 1998      **Quality Assurance, Quanterra**  
Coordinated quality assurance activities including maintaining and implementing QuantIMS, and interactive database, within the entire laboratory; reviewed and approved MDLs; reviewed, organized, and distributed SOPs; reviewed and updated control limits; maintained Facility Specific QAMP; logged in and monitored refrigerator blanks projects bimonthly; provided QA orientation for new employees; internal and external audits; state certifications; and client concerns. Served as backup for Chief of Police secretary.

## **QUALIFICATIONS**

Mrs. Rangel has over 5 years experience in environmental services. Her background in quality assurance gives her a solid working knowledge of analyzing laboratory procedures and data review. Her experience has stressed the importance of thorough documentation and effective communication between the laboratory and the client.

## **PROFESSIONAL AFFILIATIONS, TRAINING AND CERTIFICATIONS**

Society of Quality Assurance (SQA), Active Member since 2000

A2LA ISO/IEC 17025 and Accreditation, 2002

SQA QA Techniques in Auditing Data and Records, 2001

SQA Part 11 Meets CROMERRR, 2001

International Quality Training Overview of the FDA GLP Regulations, 2000

**Martha M. Maier**

**Director of HRMS Services**

**EDUCATION**

B.S. Chemistry, University of Wisconsin, Madison, WI (1983)  
B.S. Philosophy, University of Wisconsin, Madison, WI (1983)

**EXPERIENCE**

**Present**                    **Director of HRMS Services, Alta Analytical Laboratory, Inc.**  
As Director of HRMS Services oversees the routine operations of the High Resolution Mass Spectrometry Group. Performs the interpretation and final review of analytical data, and issues final reports. Acts as a liaison between the laboratory and the Quality Assurance department. Project manager for routine and special projects.

**1999-2001**                **Director, Ultra-Trace Analyses Group, Paradigm Analytical Laboratories, Inc**  
Responsible for extractions, analyses, final review and processing of all data generated by the group. Served as project manager. Oversaw the development of analytical procedures for the analysis for PCBs by HRMS (Method 1668A), as well as the implementation of NELAP certification.

**1998-1999**                **Bioanalytical Project Manager, Alta Analytical Laboratory**  
Liaison between pharmaceutical clients and the Liquid Chromatography Mass Spectrometry (LCMS) Services group, ensuring efficient study management and timely reporting of laboratory results. Directed all phases of study conduct, including: review of study protocols and sponsor Standard Operating Procedures; initiation, maintenance and review of study and raw data files; scheduling of sample analyses; and preparation of final reports.

**1992-1998**                **Associate Scientist, Alta Analytical Laboratory**  
Involved in sales and project management. Directed sample analysis, reviewed data and prepared reports. Presented papers and gave educational seminars and presentations on dioxin/furan analysis. Arranged exhibit schedule and represented the laboratory at technical meetings and industry conferences. From 1992-1997, acted as laboratory representative for the Eastern U.S., both in sales and project management capacities.

- 1990-1992      **Technical Sales, Enseco-Cal Lab**  
Coordinated the dioxin/furan marketing program. Prepared bids, organized exhibits, and oversaw the production of marketing materials. Acted as a liaison between the salespeople and the dioxin/furan laboratory.
- 1988-1990      **HR GC/MS Operator, Enseco-Cal Lab**  
Dioxin/furan analysis of pulp, food, and low-level environmental samples using high resolution GC/MS. Promoted to scientist position in December 1989. Involved in data review and project management.
- 1987-1988      **GC/MS Operator, Enseco-Cal Lab**  
Dioxin/furan analysis using low-resolution GC/MS systems. Promoted to lead person in May 1988.
- 1986-1987      **GC/MS BNA Operations Supervisor, Radian Corporation**  
Responsible for the scheduling and completion of all semi volatile analyses. Trained other operators in BNA analysis and routine instrument maintenance.
- 1984-1986      **GC/MS Operator, Radian Corporation**  
Analyzed environmental samples for volatile and semi volatile organic pollutants using EPA Methods 624, 625, SW-8240, SW-8270, and by EPA Contract Lab Protocol. Performed routine maintenance on all systems. Responsible for interfacing the GC/MS lab with the laboratory database management system.
- 1984-1984      **Analytical Chemist, Wisconsin Department of Agriculture**  
Assayed pesticide formulations using HPLC, GC, and TLC.  
Researched, developed and modified methods.

## QUALIFICATIONS

Ms. Maier has over 17 years of experience in the environmental laboratory, including 11 years of specialization in dioxin/furan analysis.

## AFFILIATIONS

Air & Waste Management Association  
American Chemical Society  
Technical Association of the Pulp & Paper Industry

## Certifications

<b>CURRENT CERTIFICATIONS</b>
-------------------------------

**State of Alaska (Certificate No.: CA-413)**

**State of Arizona (Certificate No.: AZ0639)**

**State of Arkansas (Certificate No.: 03-037-0)**

**State of California (Certificate No.: ELAP 1640, NELAP 02102CA)**

**State of Colorado**

**State of Connecticut (Certificate No. PH-0182)**

**State of Florida (Certificate No.: E87777)**

**Commonwealth of Kentucky (Certificate No.: 90063)**

**State of Louisiana DHH (Certificate No.: LA000014)**

**State of Louisiana DEQ**

**State of Mississippi (Approval granted through CA certification)**

**State of Nevada (Certificate No.: CA413)**

**State of New Mexico**

**State of New Jersey (Certificate No.: CA003)**

**State of New York (Certificate No.: 11411)**

**State of North Carolina (Certification No. 06700)**

**State of North Dakota (Certificate No.: R-078)**

**State of Oregon (ORELAP ID # CA200001)**

**State of Pennsylvania (Certificate No.: 68-490)**

**State of South Carolina (Certificate No.: 87002001)**

<b>CURRENT CERTIFICATIONS</b>
-------------------------------

**State of Tennessee (Certificate No.: 02996)**

**State of Texas (Certificate No. TX247-2000A)**

**State of Utah (Certificate No.: E-201)**

**Commonwealth of Virginia (Certificate No.: 00013)**

**State of Washington (Certification No.: C091)**

**State of Wisconsin (Certificate No.: 998036160)**

**State of Wyoming (USEPA Region 8 Ref: 8TMS-Q)**

**Department of the Navy**

**U.S. Army Corps of Engineers**

**U.S. EPA Region 5**

**Bureau of Reclamation - Mid-Pacific Region (MP-470, Res-1.10)**



March 30, 2004

Ms. Dina Brennan  
Environmental Data Services  
2690 Oak Hill Drive  
Allison Park, PA 15101

Dear Ms. Brennan,

Enclosed are the current Statement of Qualifications and NELAP Certifications. The copy of the recent New York Certificate is still in mail; as soon as we received the copy we will send it to you.

Please give me a call at (916) 933-1640 or by email at [mpa@altalab.com](mailto:mpa@altalab.com) if you require more information. Thank you.

Sincerely,

Maricel P. Avelino  
Associate Scientist

**Alta Analytical Laboratory Inc.**

1104 Windfield Way  
El Dorado Hills, CA 95762

FAX (916) 673-0106  
(916) 933-1640





STATE OF CALIFORNIA  
DEPARTMENT OF HEALTH SERVICES

NATIONAL ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

ACCREDITATION

Is hereby granted to

**ALTA ANALYTICAL LABORATORY, INC.**

**1104 WINDFIELD WAY**

**EL DORADO HILLS, CA 95762-5702**

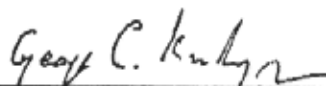
Scope of accreditation is limited to the  
"NELAP Fields of Accreditation"  
which accompanies this Certificate.

Continued accredited status depends on successful  
ongoing participation in the program.

This Certificate is granted in accordance with provisions of  
Section 100825, et seq. of the Health and Safety Code.

Certificate No: 02102CA  
Expiration Date: 01/31/2005  
Effective Date: 01/31/2004

Berkeley, California  
subject to forfeiture or revocation.

  
George C. Kulasingam, Ph.D.  
Program Chief  
Environmental Laboratory Accreditation Program



CALIFORNIA DEPARTMENT OF HEALTH SERVICES  
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM  
NELAP Fields of Accreditation



ALTA ANALYTICAL LABORATORY, INC.

Lab Phone (916) 933-1640

1104 WINDFIELD WAY  
EL DORADO HILLS, CA 95762-5702

Certificate No: 02102CA Renew Date: 01/31/2005

INTERIM

105 - Semi-volatile Organic Chemistry of Drinking Water

105.230	001	EPA 1613	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)
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111 - Semi-volatile Organic Chemistry of Wastewater

111.090	001	EPA 613	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)
111.110	001	EPA 1613	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)
111.110	002	EPA 1613	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)
111.110	003	EPA 1613	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)
111.110	004	EPA 1613	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)
111.110	005	EPA 1613	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)
111.110	006	EPA 1613	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)
111.110	007	EPA 1613	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)
111.110	008	EPA 1613	2,3,7,8-Tetrachlorodibenzofuran (TCDF)
111.110	009	EPA 1613	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)
111.110	010	EPA 1613	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)
111.110	011	EPA 1613	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)
111.110	012	EPA 1613	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)
111.110	013	EPA 1613	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)
111.110	014	EPA 1613	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)
111.110	015	EPA 1613	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)
111.110	016	EPA 1613	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)
111.110	017	EPA 1613	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)

117 - Semi-volatile Organic Chemistry of Hazardous Waste

117.120	001	EPA 8280A	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)
117.120	002	EPA 8280A	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)
117.120	003	EPA 8280A	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)
117.120	004	EPA 8280A	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)
117.120	005	EPA 8280A	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)
117.120	006	EPA 8280A	2,3,7,8-Tetrachlorodibenzofuran (TCDF)
117.120	007	EPA 8280A	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)
117.120	008	EPA 8280A	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)
117.120	009	EPA 8280A	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)
117.120	010	EPA 8280A	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)
117.120	011	EPA 8280A	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)
117.120	012	EPA 8280A	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)
117.120	013	EPA 8280A	Total TCDD
117.120	014	EPA 8280A	Total PeCDD
117.120	015	EPA 8280A	Total HxCDD
117.120	016	EPA 8280A	Total TCDF
117.120	017	EPA 8280A	Total PeCDF
117.120	018	EPA 8280A	Total HxCDF

As of 12/15/2003, this list supersedes all previous lists for this certificate number.  
Customers: Please verify the current accreditation standing with the State.

## ALTA ANALYTICAL LABORATORY, INC.

Certificate No: 02102CA  
Renew Date: 01/31/2005

117.120	019	EPA 8280A	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)
117.120	020	EPA 8280A	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)
117.120	021	EPA 8280A	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)
117.120	022	EPA 8280A	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)
117.120	023	EPA 8280A	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)
117.130	001	EPA 8290	2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)
117.130	002	EPA 8290	1,2,3,7,8-Pentachlorodibenzo-p-dioxin (PeCDD)
117.130	003	EPA 8290	1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)
117.130	004	EPA 8290	1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin (HxCDD)
117.130	005	EPA 8290	1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (HxCDD)
117.130	006	EPA 8290	2,3,7,8-Tetrachlorodibenzofuran (TCDF)
117.130	007	EPA 8290	1,2,3,7,8-Pentachlorodibenzofuran (PeCDF)
117.130	008	EPA 8290	2,3,4,7,8-Pentachlorodibenzofuran (PeCDF)
117.130	009	EPA 8290	1,2,3,4,7,8-Hexachlorodibenzofuran (HxCDF)
117.130	010	EPA 8290	1,2,3,6,7,8-Hexachlorodibenzofuran (HxCDF)
117.130	011	EPA 8290	1,2,3,7,8,9-Hexachlorodibenzofuran (HxCDF)
117.130	012	EPA 8290	2,3,4,6,7,8-Hexachlorodibenzofuran (HxCDF)
117.130	013	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (HpCDD)
117.130	014	EPA 8290	1,2,3,4,6,7,8-Heptachlorodibenzofuran (HpCDF)
117.130	015	EPA 8290	1,2,3,4,7,8,9-Heptachlorodibenzofuran (HpCDF)
117.130	016	EPA 8290	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)
117.130	017	EPA 8290	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)



State of California—Health and Human Services Agency  
Department of Health Services



DIANA M. BONTÁ, R.N., Dr. P.H.  
Director

GRAY DAVIS  
Governor

October 1, 2003

Certificate No.: 1640

MARTHA MAIER  
ALTA ANALYTICAL LABORATORY, INC.  
1104 WINDFIELD WAY  
EL DORADO HILLS, CA 95762-5702

Dear MARTHA MAIER:

This is to advise you that the laboratory named above continues to be certified as an environmental testing laboratory pursuant to the provisions of the California Environmental Laboratory Improvement Act (Health and Safety Code (HSC), Division 101, Part 1, Chapter 4, Section 100825, et seq.). Certification for all currently certified Fields of Testing that the laboratory has applied for renewal shall remain in effect until **10/31/2005** unless revoked.

**Please note that the renewal application for certification is subject to an on-site visit, and continued use of the certificate is contingent upon:**

- \* successful completion of the site visit;
- \* acceptable performance in the required performance evaluation (PE) studies;
- \* timely payment of all fees, including an annual fee due before October 31, 2004;
- \* compliance with Environmental Laboratory Accreditation Program (ELAP) statutes (HSC, Section 100825, et seq.) and Regulations (California Code of Regulations (CCR), Title 22, Division 4, Chapter 19).

An updated "Approved Fields of Testing" will be issued to the laboratory upon completion of the renewal process. The application for the next renewal must be received 90 days before the expiration of this certificate to remain in force according to the CCR, Section 64801 through 64827.

Please note that the laboratory is required to notify ELAP of any major changes in the laboratory such as the transfer of ownership, change of laboratory director, change in location, or structural alterations which may affect adversely the quality of analyses (HSC, Section 100845(b)(d)). Please include the above certificate number in all your correspondence to ELAP.

If you have any questions, please contact ELAP at (510) 540-2800.

Sincerely,

George C. Kulasingam, Ph.D.

Program Chief  
Environmental Laboratory Accreditation Program



STATE OF CALIFORNIA  
DEPARTMENT OF HEALTH SERVICES  
ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

**ENVIRONMENTAL LABORATORY CERTIFICATION**

Is hereby granted to

**ALTA ANALYTICAL LABORATORY, INC.**

**1104 WINDFIELD WAY**

**EL DORADO HILLS, CA 95762-5702**

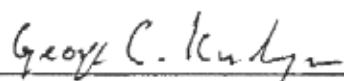
Scope of certification is limited to the  
"List of Approved Fields of Testing and Analytes"  
which accompanies this Certificate.

Continued certification status depends on successful completion of site visit,  
proficiency testing studies, and payment of applicable fees.

This Certificate is granted in accordance with provisions of  
Section 100825, et seq. of the Health and Safety Code.

Certificate No: 1640  
Expiration Date: 10/31/2005  
Effective Date: 10/01/2003

Berkeley, California  
subject to forfeiture or revocation.

  
George C. Kulasingam, Ph.D.  
Program Chief  
Environmental Laboratory Accreditation Program



# STATE OF NEW YORK DEPARTMENT OF HEALTH

Wadsworth Center    The Governor Nelson A. Rockefeller Empire State Plaza    P.O. BOX 509    Albany, New York 12201-0509

Antonia C. Novello, M.D., M.P.H., Dr.P.H.  
*Commissioner*

Dennis P. Whalen  
*Executive Deputy Commissioner*

LAB ID: 11411

June 02, 2003

MR. ROBERT S. MITZEL  
ALTA ANALYTICAL LAB INC  
5070 ROBERT J MATHEWS PKY  
EL DORADO HILLS CA 95762

Certificate Expiration Date: April 01, 2004

Dear Mr. Mitzel,

Enclosed are the ELAP and/or NELAP Certificate(s) of Approval issued to your environmental laboratory for the current permit year. The Certificate(s) supersede any previously issued and are in effect through the expiration date listed above. Please carefully examine the Certificate(s) to insure that the category(ies), subcategory(ies), analyte(s) and method(s) for which your laboratory is approved are listed correctly, as well as verifying your laboratory's name, address, lead technical director and identification number.

Pursuant to regulation (Part 55-2 NYCRR), certificates must be posted conspicuously in the laboratory and shall, upon request, be made available to any client of the laboratory. Certificates remain the property of the New York State Department of Health and must be surrendered promptly on demand.

Please note that pursuant to Section 55-2.5(a) NYCRR, any misrepresentation of the analytes or subcategories for which your laboratory is approved may result in suspension, limitation or termination of said certification.

The National Environmental Laboratory Accreditation Conference (NELAC) further defines and limits the use of NELAP accreditation and the NELAP logo.

Please notify the ELAP office of any changes you feel need to be made to your certificate(s). We may be reached via email to [elap@health.state.ny.us](mailto:elap@health.state.ny.us) or by calling (518) 485-5570.

Sincerely,

Joyce Reilly

Administrative Assistant  
Environmental Laboratory  
Approval Program

NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER

Antonia C. Novello, M.D., M.P.H., Dr.P.H.



Expires 12:01 AM April 01, 2004  
Issued June 02, 2003

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

MR. ROBERT S. MITZEL  
ALTA ANALYTICAL LAB INC  
5070 ROBERT J MATHEWS PKY  
EL DORADO HILLS CA 95762 United States

NY Lab Id No: 11411  
EPA Lab Code: CA00413

*Is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards for the category*

**ENVIRONMENTAL ANALYSES POTABLE WATER**

*All approved analytes are listed below:*

**Drinking Water Miscellaneous**

2,3,7,8-Tetrachlorodibenzo-p-dioxin EPA 1613

Serial No.: 18753

Property of the New York State Department of Health. Valid only at the address shown.  
Must be conspicuously posted. Valid certificates have a raised seal and may be  
verified by calling (516) 485-5570.

DOH-3317 (3/97)

Page 1 of 1



NEW YORK STATE DEPARTMENT OF HEALTH  
WADSWORTH CENTER

Antonia C. Novello, M.D., M.P.H., Dr.P.H.



Expires 12:01 AM April 01, 2004  
Issued June 02, 2003

**CERTIFICATE OF APPROVAL FOR LABORATORY SERVICE**

*Issued in accordance with and pursuant to section 502 Public Health Law of New York State*

MR. ROBERT S. MITZEL  
ALTA ANALYTICAL LAB INC  
5070 ROBERT J MATHEWS PKY  
EL DORADO HILLS CA 95762      United States

NY Lab Id No: 11411  
EPA Lab Code: CA00413

*is hereby APPROVED as an Environmental Laboratory in conformance with the  
National Environmental Laboratory Accreditation Conference Standards for the category*

**ENVIRONMENTAL ANALYSES NON POTABLE WATER**

*All approved analytes are listed below:*

**Dioxins**

2,3,7,8-Tetrachlorodibenzo-p-dioxin      EPA 613

Serial No.: 18754

Property of the New York State Department of Health. Valid only at the address shown.  
Must be conspicuously posted. Valid certificates have a raised seal and may be  
verified by calling (518) 485-5570.

DOH-3317 (3/97)

Page 1 of 1

